

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-18 (canceled)

Claim 19 (currently amended): Apparatus for collecting and converting radiant energy comprising:

a plurality of spaced apart, incorporated in at least one array elongated reflective surfaces having generally concave transversal profiles, front longitudinal ends and opposing rear longitudinal ends being generally inclined toward one another;

at least a substantial part of said reflective surfaces being designed and positioned to reflect incident radiant energy that impinges upon said reflective surfaces from the side of said front longitudinal ends into a plurality of convergent beams and direct said plurality of said convergent beams by means of a single reflection to a plurality of preselected converging directions through spaces between adjacent pairs of said rear longitudinal ends.

Claim 20 (previously presented): The apparatus of claim 19 further comprising an elongated energy receiving means disposed in energy receiving relation to each of said reflective surfaces so that said convergent energy beams reflected from two or more adjacent reflective surfaces at least partially superimpose on one another on said energy receiving means.

Claim 21 (previously presented): The apparatus of claim 20 wherein said energy receiving means is positioned according to a relation: $\beta < 90^\circ$ where β is an angle between the direction to the source of said radiant energy and direction to a point at said reflective surfaces taken at a point of the energy receiving surface of said energy receiving means.

Claim 22 (previously presented): The apparatus of claim 20 wherein said energy receiving means comprises at least one photovoltaic cell having working area facing toward said reflective surfaces and the source of said radiant energy.

Claim 23 (currently amended): The apparatus of claim 22 ~~20~~ further comprising at least one heat sink which is in heat exchange relation with said photovoltaic cell.

Claim 24 (previously presented): The apparatus of claim 20 wherein said energy receiving means comprises at least one fluid-carrying tube of a solar heat collector.

Claim 25 (previously presented): The apparatus of claim 20 wherein said energy receiving means is mechanically separated from said plurality of said reflective surfaces.

Claim 26 (currently amended): The apparatus of claim 19 further comprising ~~wherein one or more said reflective surfaces are replaced with~~ one or more elongated planar reflectors extending parallel to said reflective surfaces and having the same basic orientation.

Claim 27 (previously presented): The apparatus of claim 19 wherein the slopes of all said reflective surfaces are defined so that angles of incidence α of said radiant energy on said reflective surfaces have particular values more than 45° and less than 90° .

Claim 28 (previously presented): The apparatus of claim 19 wherein one or more said reflective surfaces is disposed in any one of a translated, a reversed and/or a rotated orientation relatively to the others having the same basic arrangement.

Claim 29 (canceled)

Claim 30 (previously presented): The apparatus of claim 19 wherein said reflective surfaces are designed and positioned to minimize screening and shadowing on other reflective surfaces, wherein the front end of an inner reflective surface and the rear end of an adjacent outer reflective surface are aligned relatively to each other with respect to the incident flux and the rear end of said inner reflective surface is disposed out of the path of energy rays reflected from the front end of said outer surface.

Claim 31 (previously presented): The apparatus of claim 19 wherein at least one of said transversal profiles is a segment of conical section curve.

Claim 32 (previously presented): The apparatus of claim 31 wherein said segment is parabolic.

Claim 33 (previously presented): The apparatus of claim 31 wherein said segment is circular.

Claim 34 (previously presented): The apparatus of claim 19 wherein the shape of at least one of said transversal profiles is represented by a function selected from the group consisting of a polynomial function of at least second order, a parametric curve, and a spline tailored to provide a desired irradiance distribution on said energy receiving means.

Claim 35 (previously presented): The apparatus of claim 19 wherein at least one of said transversal profiles comprises a set of conjugated lines selected from the group consisting of straight, parabolic, circular, elliptical, and hyperbolic segments.

Claim 36 (previously presented): The apparatus of claim 19 further comprising at least one axle support means for positioning said at least one array of said reflective surfaces according to the movement of source of said radiant energy.

Claim 37 (new): The apparatus of claim 19 further comprising support means supporting said plurality of said reflective surfaces and arranged so that said reflective surfaces can be individually adjusted by rotating around their respective longitudinal axes and/or moving relatively to one another.

Claim 38 (new): The apparatus of claim 20 wherein said reflective surfaces are arranged in two or more arrays that can be individually tilted, rotated, and positioned differently relatively to each other and said energy receiving means.